APPENDIX D

State of California **The Resources Agency**

Memorandum

To : Christopher Foe
Central Valley Regional Water Quality
Control Board
3443 Routier Road
Sacramento, California 95827-3098

Date : August 11, 1989

From : **Department of Fish and Game** - Brian Finlayson, Supervisor
Aquatic Toxicology Laboratory

Subject : Acute Toxicity Tests on Juvenile Neomysis mercedis.

At your request the Department of Fish and Game Aquatic Toxicology Laboratory conducted acute (96-h) toxicity tests on Neomysis mercedis with water collected from the Colusa Basin Drain (CBD) and the Sacramento River near the town of Colusa (Colusa). Five CBD samples were tested, four (5-21, 5-23, 5-24, 6-3) produced 100% mortality within 24-hr and one (6-6) was not significantly different from the laboratory controls. Two Colusa samples (5-29, 6-8) were tested and were not significantly different from the controls. Three CBD samples (6-10, 6-12, 6-14) were tested and found to have no significant effect and ninety percent and above survival was observed in all three samples. Survival of the laboratory controls average 94%.

I have enclosed copies of the protocol and the raw mortality data. If you want copies of the water quality data let me know.

GF:BF:jw

Enclosure

TEST PROTOCOL

- TARGET TEST CONDITIONS

  Temperature 18 ± 1°C

  Conductivity 3450 ± 100 usemen

- TEST CHAMBER

  Glass Jars (3.8L) with black sides

- LOADING DENSITY

  20 mysids per replicate

- DESIGN

  Two replicates per treatment

- TEST ORGANISMS

  Neomysis mercedis 2-6 mm

1. Receive and refrigerate water samples.
2. Adjust salinity of all test water with Marine Environment® to 3450 ± 100 usemen.
3. Add test water to chambers and allow to come to temperature.
4. Add 20 mysids to each chamber.
5. Count mortality daily and feed 0.5 ml nauplii once each day.
6. Measure pH, D.O. and temperature once each day.

Acute Toxicity Test

Test No. 38 Coll. ID CA

ACCUMULATIVE NUMBER RESPONDING

	Tox. Conc.	Day 1	Day 2	Day 3	Day 4	No. Remaining + at End	No. = Exposed
CTL	0	1	1	1	2	16	18
CTL	0	1	1	1	1	16	17
CBD 5-24	10	20	20	20	20	0	20
CBD 5-24	10	20	20	20	20	0	20
CBD 5-23	18	20	20	20	20	0	20
CBD 5-23	18	20	20	20	20	0	20
CBD 5-21	32	20	20	20	20	0	20
	32						
	56						
	56						
	100						
	100						

CHEMISTRY SUMMARY

Toxicant Concentrations Expressed as (/L).

Sample Date	0.1	0.2	10.1	10.2	18.1	18.2	32.1	32.2	56.1	56.2	100.1	100.2
/ /												
/ /												

Initial stock concentration: Actual_____ Expected_____

Expected 100%_____

Acute Toxicity Test

Test No. 43 Coll. ID CA

ACCUMULATIVE NUMBER RESPONDING

Tox. Conc.	Day 1	Day 2	Day 3	Day 4	No. Remaining + at End	No. = Exposed
ColusA 6-8 0	0	0	0	0	8	8
Colusa 6-8 0	0	0	0	0	20	20
CBD 6-3 10	12	12	8	8	0	8
CBD 6-3 10	20	20	20	20	0	20
CBD 6-6 18	0	0	0	0	9	19
CBD 6-6 18	0	0	0	0	19	19
ATL 32	0	0	0	0	9	9
ATL 32	0	0	0	0	20	20
ColusA 5-29 56					8	2
Colusa 5-29 56	0	0	0	0	5	5
100						
100						

CHEMISTRY SUMMARY

Toxicant Concentrations Expressed as (/L).

Sample Date	0.1	0.2	10.1	10.2	18.1	18.2	32.1	32.2	56.1	56.2	100.1	100.2
/ /												
/ /												

Initial stock concentration: Actual_____ Expected_____

Expected 100%_____

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